AN INEXPENSIVE MOBILE RACK FOR REARING INSECTS

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AN INEXPENSIVE MOBILE RACK FOR REARING INSECTS[1/]

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During the development of mass rearing methods for the parasites Bracon kirkpatricki (Wilkinson) and Chelonus blackburni Cameron, an inexpensive, mobile, multiple-shelved rearing rack was developed.

The materials used for the rack included:

- 4 casters, Bassick[3/] medium duty (H4996 F), with 4-inch-diameter wheels.
- 12 pieces pipe, galvanized, 3/4-inch:
  - 4 pieces, 66-inch, with threads
  - 4 pieces, 66-inch, with or without threads
  - 4 pieces, 25-inch, with or without threads
- 4 tees (Kee Klamp 21-5),[4/] 90°, two-socket
- 4 ells (Kee Klamp 20-5), side-outlet, 3/4-inch
- 4 pin fittings (Kee Klamp 83-5) per shelf, 3/4-inch
- 4 shelves (DS-819 Union Steel Products[5/] or equivalent), 28-inch by 66-inch, 1-inch wire spacing, two center fasteners.

The pipe pieces can be cut from three 20-foot lengths of 3/4-inch galvanized pipe. Inasmuch as four threaded 66-inch pieces only are required for each rack, no additional threading of the pipe is necessary. Because fittings requiring only set screws and threaded casters are used, the racks are readily assembled or disassembled for storage. The assembled rack is shown in figure 1.

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4/ Kee Klamps North America Ltd., Buffalo, N.Y. 14240.

5/ Union Steel Products Co., Albion, Mich. 49224.

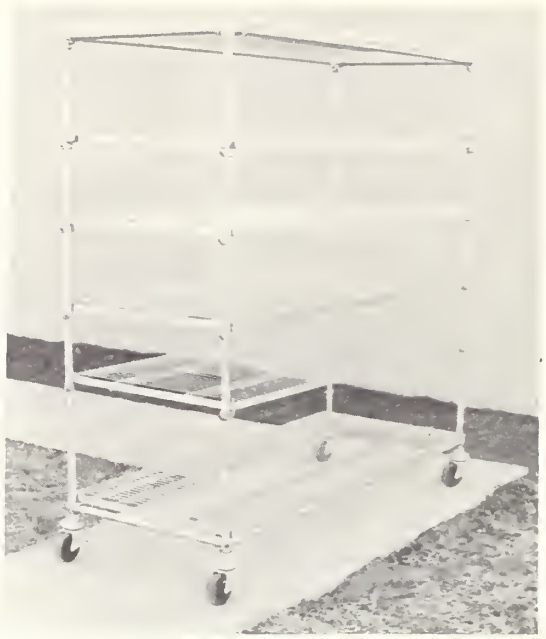

Figure 1.--Assembled mobile rearing rack.

The assembled rack measures 68 inches by 28 inches by 66 inches, including the additional height contributed by the casters. The shelves are 28-inch by 66-inch steel with 1-inch wire spacing welded on a 1-inch frame with two center braces. The shelves are held in place by the pin fittings, which can be moved on the vertical members so that the distance between the shelves is adjustable.

To trap and channel emerging larvae of such insects as the pink bollworm, Pectinophora gossypiella Saunders, the rack can be modified by suspending a V of sheet metal from additional rails introduced onto the vertical members. This modification can be readily accomplished by adding two 66-inch pieces of pipe on single- or three-socket tees (Kee Klamp 10-5 or 25-5). Straps of 1/8-inch by 1-inch soft steel with the ends curved to fit over the 3/4-inch pipe rails may be used to suspend the sheet metal V under the rearing containers for the pink bollworms (fig. 2). The sides of the sheet metal V are 24 inches wide and the length is 66 inches. The open top of the V is 34 inches wide, which allows the V to extend beyond the sides of the shelves to catch any larvae that crawl off the edges of the shelves. Extra sheet metal flaps are added at the ends of the V to trap larvae leaving the ends of the shelves. Holes in the bottom of the V sections direct the larvae cutting out of the rearing containers into funnels and containers provided with pupation sites for the prepupae.

Modified with lights, the racks are used to hold the oviposition cages for C. blackburni. The contents of C. blackburni pupation boxes are also spread or left intact on the racks and placed in the dark emergence chamber. In addition to the uses described above, the racks are used for drying media rolls and flakes, for storage, and plasticware drying racks. Other modifications will be apparent to research workers involved with large-scale insect production.

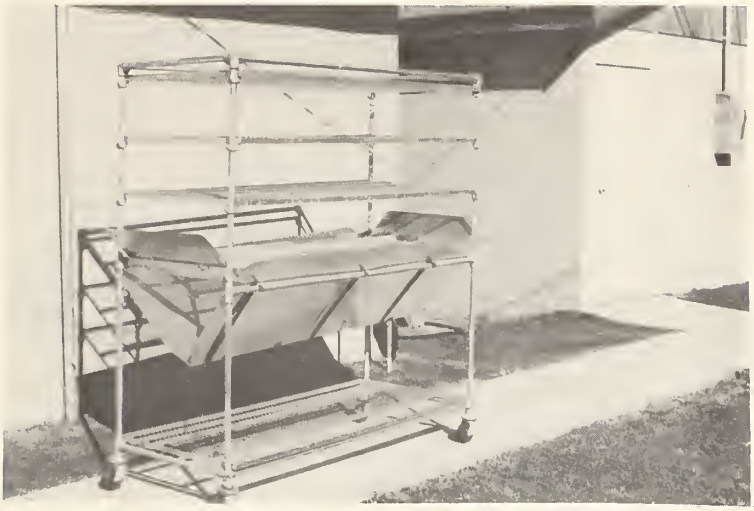

Figure 2.--Rearing rack modified to collect larvae cutting out from rearing containers.

The small number of cuts necessary for the pipe frame, the pipe fittings with set screws, and the screw-on casters minimize the labor required to produce these racks. In 1972, five-shelf racks of the type described in this report can be produced easily for about $120 to $130 each.

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